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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,575	12/29/2000	James Hermerding	042390.P9249	1629

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EXAMINER
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YANCHUS III, PAUL B

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/752,575

Applicant(s)

HERMERDING ET AL.

Examiner

Paul B. Yanchus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This final office action is in response to communications filed on 3/6/06.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godfrey, US Patent no. 6,091,255, in view of Bealkowski et al., US Patent no. 6,378,027 [Bealkowski].

Regarding claim 1, Godfrey discloses a method of managing power in a computer system, comprising:

operating the computer system at a first CPU [existing task operating on processor with highest respective temperature, column 5, lines 57-60];

receiving a first signal generated by a thermal sensor within the first CPU [column 5, lines 48-51];

selecting a second CPU to receive a workload of the first CPU based on the first signal [re-assign existing process to processor with lowest respective temperature, column 5, lines 57-60];

distributing the workload between the first CPU and the second CPU [column 2, lines 21-30 and column 5, lines 57-60]; and

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resuming operation of the computer system at the first CPU and the second CPU [column 2, lines 21-30 and column 5, lines 57-60].

Godfrey does not disclose that the operating system controls the selecting a second CPU to receive a workload of the first CPU. Godfrey instead discloses that a control unit controls the selecting a second CPU to receive a workload of the first CPU. Bealkowski discloses an operating system which controls selecting of a first processor to operate a system and selecting of second processor to operate the system when the first processor is in an abnormal operating condition [column 4, lines 5-16 and 66-67 and column 5, lines 1-4]. It would have been obvious to one of ordinary skill in the art to modify the Godfrey method to enable the operating system, instead of a control unit, to control the selecting of a second CPU to receive a workload of the first CPU in order to simplify the system by eliminating the need for a separate control unit hardware to execute along with the processors.

Regarding claims 2 and 3, Godfrey further discloses determining the processor with lowest respective temperature. It would have been obvious to one ordinary skill in the art that the CPU processor with lowest respective temperature is the least recently used CPU.

Regarding claim 4, Godfrey further discloses that the method may be carried on a system with a three processor configuration [Figure 4].

Regarding claim 5, Godfrey discloses a computer system comprising:

a first central processing unit (CPU) [processor with highest respective temperature, column 5, lines 57-60]; and

a second CPU [processor with lowest respective temperature, column 5, lines 57-60];

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receiving a first signal generated by a thermal sensor within the first CPU [column 5, lines 48-51];

selecting a second CPU to receive a workload of the first CPU based on the first signal [re-assign existing process to processor with lowest respective temperature, column 5, lines 57-60column 5, lines 57-60];

distributing the workload between the first CPU and the second CPU [column 2, lines 21-30 and column 5, lines 57-60]; and

resuming operation of the computer system at the first CPU and the second CPU [column 2, lines 21-30 and column 5, lines 57-60].

Godfrey does not disclose that the operating system controls the selecting a second CPU to receive a workload of the first CPU. Godfrey instead discloses that a control unit controls the selecting a second CPU to receive a workload of the first CPU. Bealkowski discloses an operating system which controls selecting of a first processor to operate a system and selecting of second processor to operate the system when the first processor is in an abnormal operating condition [column 4, lines 5-16 and 66-67 and column 5, lines 1-4]. It would have been obvious to one of ordinary skill in the art to modify the Godfrey method to enable the operating system, instead of a control unit, to control the selecting of a second CPU to receive a workload of the first CPU in order to simplify the system by eliminating the need for a separate control unit hardware to execute along with the processors.

Regarding claim 6, Godfrey further discloses that the processors each include a thermal sensor [Figure 4].

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Regarding claim 7, Godfrey further discloses that operation of the computer system is transferred from the first CPU to the second CPU upon the thermal sensor within the first CPU measuring the predetermined power threshold [re-assign existing process to processor with lowest respective temperature from processor with highest respective temperature, column 5, lines 57-60column 5, lines 50-60].

Regarding claims 10 and 11, Godfrey further discloses determining the processor with lowest respective temperature. It would have been obvious to one ordinary skill in the art that the CPU processor with lowest respective temperature is the least recently used CPU.

Claims 8, 9 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godfrey, US Patent no. 6,091,255 and Bealkowski et al., US Patent no. 6,378,027 [Bealkowski], in view of Applicant's Admitted Prior Art [AAPA].

Godfrey and Bealkowski, as described above, disclose a method and system for managing power in computer system. Godfrey and Bealkowski do not explicitly disclose a cooling system comprising a heat pipe, heat exchanger and a cooling fan. However, the AAPA states that a microprocessor cooling system comprising a heat pipe, heat exchanger and a cooling fan is well known in the art [page 2, lines 13-20]. Therefore the advantages of using the cooling system are well known in the art and it would have been obvious to one of ordinary skill in the art to incorporate the well known cooling system disclosed by the AAPA in the system taught by Godfrey and Bealkowski.

*Response to Arguments*

Applicant's arguments filed 3/6/06 have been fully considered but they are not persuasive.

Applicant argues, "Godfrey does not disclose or suggest selecting by an operating system a second CPU to receive a workload of a first CPU based on a first signal and then distributing the same workload between the first CPU and the second CPU." Applicant further argues, "Godfrey only discloses re-assigning the workload to another CPU, not distributing the workload between the original CPU the workload was on and another CPU. Therefore, Godfrey does not disclose or suggest the cited features of claim 1." Examiner disagrees. Godfrey discloses assigning multiple tasks to each of the processing modules [task delegation module assigns processing tasks to each of the plurality of processing modules, column 2, lines 21-24]. Therefore, each processing module is intended to process multiple tasks. Examiner interprets the multiple tasks as a whole to be a workload. Godfrey further discloses reassigning a processing task from a first processing module to a second processing module [task delegation module may also reassign a processing task from a processing module with a higher temperature to a processing module with a lower temperature, column 2, lines 25-30]. Godfrey does not disclose that all of the multiple tasks of the higher temperature processing module are reassigned to the lower temperature processing module. Godfrey only discloses reassigning a single task of the higher temperature processing module to the lower temperature processing module. As a result of the single processing task being reassigned, the single task operates on the lower temperature processing module while the remaining task(s) continue to operate on the higher temperature processing module. Therefore, the tasks are distributed between the higher temperature processing module and the lower temperature processing module. In summary, Godfrey and

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Bealkowski do disclose, "selecting by an operating system a second CPU to receive a workload of a first CPU based on a first signal and then distributing the same workload between the first CPU and the second CPU."

The rejections to claims 1-16 are respectfully maintained.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B. Yanchus whose telephone number is (571) 272-3678. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus  
May 16, 2006

  
**LYNNE H. BROWNE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**